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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,248	11/17/2003	David M. Tucker	VCSrc	5207

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HOUSTON, TX 77070

EXAMINER

WEST, PAUL M

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/716,248	Applicant(s) TUCKER ET AL.	
	Examiner Paul M. West	Art Unit 2856	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03032006.06282006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Les Graves "Deepwater pipeline flooding and pigging without connection to a surface vessel", Transactions - Institute Of Marine Engineers, Series C, 1999*, Vol 111, Nr 1, pages 151-160 (henceforth referred to as "Graves") in view of Bliss et al. (US Patent 5,883,303).

Regarding claims 1, 4, 7-9, Graves discloses "pigging and flooding" (page 151) a pipeline that is "ready to test immediately" by "hydrotesting" (page 160). Graves also discloses launching the pig or pig train from a Subsea Pigging Unit (SPU) (page 151) to a "pig receiver". Graves describes "removal and recovery of the pig receiver" (page 157) in order to carry out "pig inspection". The Graves reference refers to the terms "recovery" "recover" and "recovered" only in the context of retrieving devices and equipment from the sea floor which clearly indicates to one of ordinary skill in the art that the pig receiver, which is located at the other end of the already laid pipeline, was also on the sea floor like the pig launcher.

Graves further discloses using an "ROV" to operate a "Boost Pump" forcing sea water into the pipeline to move the pig train to the receiver (see figure 4 and pages 151,

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156-157, and 160).

The action of pigging will inherently effect cleaning a pipeline by scrapping along the inner surface of the pipeline as in the instant invention and the introduction of "dye" (page 154) is for visual leak testing and "intelligent pigs" are for "Straightness" testing (page 160). In this context the SPU may be considered to be both a fill as well as test package as in the instant invention.

However, Graves does not expressly teach pumping and maintaining pressure to assure no leaks as in hydrostatic testing of the instant invention.

Bliss discloses an "apparatus and method for pigging, flooding and pressure testing pipelines". Bliss also discloses his invention is principally directed to an improved pig receiver. Conventionally intervention is required by a diver or ROV to operate the receiver to receive the pig then manually manipulate valves to allow test pressure from the upstream side to be applied. Bliss's interest is mainly in an undersea pig receiver that allows the pig to enter "the pig receiver to allow pigging, flooding, and pressure testing of the pipeline without human intervention at the downstream end." (see column 1 lines 35-63). But more importantly, Bliss teaches it is conventional to combine pressure testing with pigging and flooding because "[a]ll hazardous [material] ... pipelines are required by government regulation to be pressure tested after construction and prior to being placed into service."

It would have been obvious to one having ordinary skill in the art at the time the invention was made to increase the pressure in the pipeline after the pig is received to a "required test pressure" where it may be "monitored by the test crew on the production

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facility". This will determine if there are any leaks in the conventional manner after a subsea pipeline is newly installed on the sea floor.

As for claim 2, Graves also discloses a "control and instrument panel on the unit allows ROV (or Divers) to check flow and pressure measurements as appropriate" (see figure 5 and page 156).

As for claim 5, while the Graves reference discloses the ROV making a "hot-stab" connection of the "skid based subsea pump" the reference does not expressly disclose the ROV doing so with robotic arm.

Examiner takes Official Notice that it is widely known in the art of subsea petroleum operations to use ROV's with robotic arms to make connections, turn valves and so on. Robotic arms are intended to take the place of Divers in general under sea operations. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an ROV with a robotic arm to take the place of a diver thereby reducing risk to personnel and saving time required for divers to decompress.

As for claim 6, the Graves reference figures 1 and 2 show at least the pig launcher side not yet connected to other piping or equipment. Because the pipeline remains filled with air or gas (against "the external pressure of the sea [that] exerts a high differential pressure", page 154) pending the pigging and flooding operation Examiner considers the pipeline is not yet connected to the other piping (except that which may be also pigged and flooded in this operation).

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Les

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Graves "Deepwater pipeline flooding and pigging without connection to a surface vessel", Transactions - Institute Of Marine Engineers, Series C, 1999; Vol 111 , Nr 1, pages 151-160 (henceforth referred to as "Graves") as modified by Bliss et al. (US Patent 5,883,303) and applied to claim 1 above and further in view of Corbetta (US Patent 6,234,717).

Graves discloses the SPU may be lowered and raised by a crane from a surface support vehicle and positioned with assistance by an ROV (page 158). Graves, does not expressly disclose the device may be carried by the ROV.

Corbetta teaches an ROV carrying various equipment including a seal ring test system for pressure testing newly assembled section of a conduit (column 13 line 66 to column 14 line 11).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to carry a pressurizing system on an ROV. Carrying subsea equipment with an ROV alleviates the inherent risk of equipment carried by divers or by surface vessels, which use lines that are subject to tangling. Surface vessels are also subject to heaving and may complicate the lowering and placement of the skid as discussed in the Graves reference.

Response to Arguments

2. Applicant's arguments filed 28 June 2006 have been fully considered but they are not persuasive.

3. Applicant has argued that Graves does not disclose any structure which would allow water to be pumped into an underwater pipeline at pressure sufficient for hydrostatic testing. However, Graves does disclose a "boost pump" which is capable of supplying a pressure inside the pipeline greater than the pressure outside the pipeline which is evidenced by the fact that the boost pump is used to create a pressure differential in order to move the pigging device after the pressure difference between the inside and outside of the pipe has become too small (page 156). Because the pump is capable of creating a pressure differential great enough to move the pigging device, then it is capable of creating a pressure differential for hydrostatic testing. Note that the term "high-pressure" alone, without specifying specific pressure values, does little to narrow the claim since it is already established that the boost pump is capable of creating a pressure inside the pipe **higher** than the pressure outside the pipe.

4. Applicant has argued that combination of Graves and Bliss does not make the method of the instant invention obvious. However, Graves discloses all of the structural necessities for carrying out the method, and all but one aspect of the method itself. This in combination with the teaching from Bliss, that flooding, pigging, and pressure testing are conventionally combined in a process, is believed to be more than an adequate showing of motivation to combine the references.

5. Applicant has also argued that the Corbetta reference does not teach an ROV carrying high pressure test pumps. However, the Corbetta reference is not relied upon for disclosing carrying a pump. The details of the pump are disclosed in Graves (page 156). The Cobetta reference is used to show the teaching of an ROV carrying various

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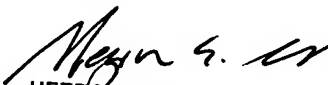
types of equipment. One cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul M. West whose telephone number is (571) 272-8590. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on (571) 272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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